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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,608	07/22/2003	Shuhai Lin	5367-001-27	5064

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Supervisor, Patent Prosecution Services
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EXAMINER	
LUI, DONNA V	

ART UNIT	PAPER NUMBER
2675	

DATE MAILED: 02/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/623,608	LIN ET AL.	
	Examiner	Art Unit	
	Donna V. Lui	2675	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 January 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *8,10 and 12-16* is/are pending in the application.

4a) Of the above claim(s) *1-7,9,11 and 17* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *8,10 and 12-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on December 4, 2004 was filed after the mailing date of the application on July 22, 2003. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner (See attached PTO-1449).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. **Claims 1, 4, 6-9, 12, and 14-17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kwang-Chien (Patent No.: 5,517,211) in view of Kuan (Patent No.: 6,762,751).

With respect to **Claim 1**, Kwang-Chien discloses an optical cursor controller (*Figure 3*) including: an operating lens (*Figure 3, element 3*) having an operating surface, a light source (*Figure 3, element 2*) operable so as to radiate light that is directed to the operating lens, wherein reflected light reflected by the object on the operating surface contains an image of the object on the operating surface (*column 2, lines 46-49*). Kwang-Chien teaches a light processing unit (*Figure 3, element 4 and 5*) for receiving the reflected light, monitoring the image of the object contained in the reflected light to detect movement of the object on the operating surface, and generating cursor control signals in accordance with detected movement of the object on the operating surface (*column 2, line 59 through column 3, line 7*).

Kwang-Chien does not mention the limitation, "that permits movement of an object thereon" for the operating surface of the operating lens. However, Kwang-Chien teaches an object (*Figure 3, element 6*) to be situated on the underside of the optical cursor controller such that the optical cursor controller creates the movement between the operating surface and the object. It would have been obvious for a person of ordinary skill in the art to turn over the optical mouse cursor controller, as taught by Kwang-Chien, such that the optical mouse controller is stationary and an object or finger creates movement upon the operating surface. Moreover, in the same field of endeavor (optical mouse) examiner cites Kuan as teaching the reversed usage, as shown in figure 1. Combining the lens (*Figure 3, element 3*) having an operating surface of Kwang-Chien with a reversible operating mouse (*Figure 1*) of Kuan, would meet the claimed limitation "that permits movement of an object thereon". It would have been obvious for a person of ordinary skill in the art at the time the invention was made to modify the optical cursor

controller of Kwang-Chien such that the optical mouse could be used in a reversible fashion, as taught by Kuan, for the purpose of eliminating moving parts for simplifying the structure and operation thereof and reducing costs of manufacturing and maintenance (*See column 1, lines 42-45 of Kuan*). The modification further provides for a pointing device operable both in a forward moving mode and rearward moving mode (*See column 1, lines 46-48 of Kuan*).

With respect to **Claim 8**, the claim differs from claim 1 only in that the limitation "a housing formed with a lens-mounting hole therethrough" is additionally recited. Such a limitation defines the operating lens to be mounted in the lens-mounted hole, and the light source and light processing unit to be mounted in the housing. Kwang-Chien teaches a housing (*Figure 3, element 1*) formed with a lens-mounting hole (*Figure 3, right below element 3*) therethrough.

With respect to **Claim 16**, the claim differs from claim 1 only in that the limitation "an electronic apparatus comprising a display module with a display screen, and an optical cursor controller operably associated with the display module for generating cursor control signals that control position of a cursor on the display screen of the display module" is additionally recited. Kwang-Chien does not teach the additional limitation. Kuan teaches an electronic apparatus comprising a display module (*Figure 8, element 400*) with a display screen, and an optical cursor controller (*Figure 8, element 100*) operably associated with the display module for generating cursor control signals that control position of a cursor on the display screen of the display module. It would have been obvious for a person of ordinary skill in the art at the time the invention was made to modify the optical cursor controller, as taught by Kwang-Chien, by associating the optical cursor controller with an electronic apparatus which comprises a display

module with a display screen for the purpose of presenting a variety of modifications (*column 5, lines 6-9*).

With respect to **Claims 4 and 12,** Kwang-Chien teaches an optical cursor controller, wherein the operating lens has a magnifying power within the range of 1 to 6 times (*column 3, lines 14-16*).

With respect to **Claim 6 and 14**, Kwang-Chien teaches an optical cursor controller, wherein the light source includes a light emitting diode (*Figure 2, element 21 and 22*).

With respect to **Claim 9,** Kwang-Chien does not teach the optical cursor controller, wherein the housing has a lower side adapted to be placed on a support, and an upper side adapted for placing a user's hand thereon, the lens-mounting hole being formed in the upper side at a position within reach of a finger on the user's hand. Kuan teaches an optical pointing device (*Figure 1*), wherein the housing (*Figure 1, element 10*) has a lower side and an upper side, a lens-mounting hole (*Figure 1, element 21*) being formed on the upper side at a position within reach of a finger on the user' hand. Kuan further states the ability of the cursor controller elements to be implemented in other devices (*Column 4, line 58 through column 5, line 5*) such as a remote control (*Figure 9, element 50*). It would have been obvious for a person of ordinary skill in the art at the time the invention was made to modify the optical cursor controller of Kwang-Chien, by rearranging the position of the components of the optical cursor controller, as taught by Kuan, for the purpose of having greater versatility for implementing the optical cursor controller (*See column 5, lines 6-9 and figures 7-9*).

With respect to **Claim 17**, Kwang-Chien does not teach an electronic apparatus further comprising a host module connected to the display module and provided with a keyboard

thereon, the optical cursor controller being mounted on the host module such that the operating surface of the operating lens is accessible from an exterior of the host module. Kuan teaches an electronic apparatus, further comprising a host module connected to the display module and provided with a keyboard (*Figure 8, element 400*) thereon, the optical cursor controller being (*Figure 8, element 100*) mounted on the host module such that the operating surface (*Figure 8, element 30*) of the operating lens is accessible from an exterior of the host module. It would have been obvious for a person of ordinary skill in the art at the time the invention was made to modify the optical cursor controller of Kwang-Chien such that the electronic apparatus includes a keyboard with the optical cursor controller mounted thereon, as taught by Kuan, for the purpose simplifying the structure and operation of the optical cursor controller (*column 1, lines 43-45*).

4. **Claims 2, 3, 10 and 11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kwang-Chien in view of Kuan, as applied to claims 1 and 8 above, and further in view of Chang et al. (Pub No.: US 2005/0001818 A1, herein after referred to as "Chang").

With respect to **Claims 2 and 10**, note the above discussion of Kwang-Chien and Kuan. Kwang-Chien teaches a lens assembly (*Figure 3, element 3*) having an operating surface and converging lens combined in one lens such that the upper part constitutes the converging lens and the lower part constitutes the operating surface. Kwang-Chien does not mention a converging lens disposed between the operating lens and the light processing unit for converging the reflected light prior to receipt by the light processing unit. Chang teaches a lens set (*Figure 2,*

element 31) that is composed of a converging lens and an operating surface. The operating surface is the lower part of the lens set facing the insulation plate (*Figure 2, element 4*) and the converging lens is the upper part of the operating lens facing the light processing unit (*Figure 2, elements 21 and 211*). Thus, it is clear that Chang teaches a converging lens disposed between the operating lens and the light processing unit. It would have been obvious for a person of ordinary skill in the art at the time the invention was made to modify the optical cursor controller of Kwang-Chien as modified by Kuan, such that the converging lens is placed between the light processing unit and the operating lens, as taught by Chang, for the purpose of achieving excellent convergence of light radiated by the light source and for the elimination of diverted light (*page 2, [0012], lines 3-6*).

With respect to **Claims 3 and 11**, Kwang-Chien teaches an optical cursor controller, wherein the operating surface of the operating lens is a convex surface (*Figure 3, element 3, lower part*). Moreover, examiner cites Chang et al. as clearly indicating the use of a convex lens (*Figure 3, element 31, page 2, [0015], lines 1-5*) for an optical cursor controller.

5. **Claims 5, 7, 13 and 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kwang-Chien in view of Kuan, as applied to claims 1 and 8 above, and in further view of Bidiville et al. (Patent No.: 6,218,659 B1, herein after referred to as "Bidiville").

With respect to **Claims 5 and 13**, note the above discussion of Kwang-Chien and Kuan. Kwang-Chien does not mention an operating lens having a thickness not greater than 2 millimeters. Bidivile teaches an optical ball for a pointing device where the lens (*Figure 12B,*

element 1220) has a thickness on the order of 1.23mm (column 15, lines 40-41). It would have been obvious for a person of ordinary skill in the art at the time the invention was made to define the parameters of the lens thickness, as taught by Bidiville, for the purpose of focusing the reflected image (*See column 2, lines 63-65*).

With respect to **Claims 7 and 15**, Kwang-Chien does not mention an optical cursor controller, wherein the operating surface of the operating lens and the light processing unit are spaced apart from each other at a distance ranging from 7.30 to 7.60 millimeters along an optical axis.

Bidiville teaches an optical ball for a pointing device (*Figure 12B*) where in one arrangement the distance from the array sensor (*the array sensor is equivalent to the functions of the light processing unit- column 8, lines 46-48, 1230*) to a lens surface (*1220*) is 4.42 mm and in another arrangement (*Figure 12C*) the lens to sensor distance is 3.3mm (*column 15, lines 66-67*). The alternate arrangements of the lens to sensor distances of Bidiville exemplify the variability of the spacing of the operating surface of the operating lens from the light processing unit. Since variability exists for the spacing between the light processing unit and the operating surface of the operating lens, allowing proper operation of the optical cursor controller, then a distance ranging from 7.30 to 7.60 mm can be implemented. It would have been obvious for a person of ordinary skill in the art at the time the invention was made to use a specified the spacing of the light processing unit from the operating surface of the operating lens, as taught by Bidiville, in the optical cursor controller of Kwang-Chien as modified by Kuan, for the purpose of providing good responses (signals representative of movements of the cursor) over varying distances of the light processing unit to the operating surface of the operating lens (*column 2 lines 22-25*).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ebina et al. (Patent No.: US 6,300,940 B1) is cited to teach an optical cursor controller which permits movement of an object on the operating surface of an operating lens.

Kato (Patent No.: 5,463,387) is cited to teach an illumination system for converging light for an optical mouse.

Van Brocklin et al. (Patent No.: US 6,847,350 B2) is cited to teach an input device for using an optical sensor for detecting movements of objects on a curved surface for cursor control.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donna V. Lui whose telephone number is (571) 272-4920. The examiner can normally be reached on Monday through Friday 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Donna V Lui
Examiner
Art Unit 2675

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. **Claims 8, 12, 14, and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kwang-Chien (Patent Number: 5,517,211) and in view of Kuan (Patent Number: 6,762,751 B2).

With respect to **Claim 8**, Kwang-Chien discloses an optical cursor controller *(Figure 3)* comprising: a housing *(Figure 3, element 1)* a housing having a lower side *(Figure 3, element 1, the bottom part making contact with element 6)* adapted to be placed on a support *(Figure 3, element 6)* and an upper side *(Figure 3, element 1, the top part)* adapted for placing a user's hand thereon, formed with a lens-mounting hole there through *(Figure 3, right below element 3)*; an operating lens (*Figure 3, element 3*) mounted in the lens-mounting hole and having a convex operating surface (*Figure 3, element 3, lower part*) accessible form an exterior of the housing. Moreover, examiner cites Chang et al. as clearly indicating the use of a convex lens (*Figure 3, element 31, page 2, [0015], lines 1-5*) for an optical cursor controller. Kwang-Chien teaches a light source (*Figure 3, element 2*) mounted in the housing and operable so as to radiate light that is directed to the operating lens, wherein reflected light reflected by the object on the operating surface contains an image of the object on the operating surface (*column 2, lines 46-49*); and a light processing unit (*Figure 3, element 4 and 5*) mounted in the housing, receiving the reflected

light, monitoring the image of the object contained in the reflected light to detect movement of the object on the operating surface, and generating cursor control signal in accordance with detected movement of the object on the operating surface (*column 2, line 59 through column 3, line 7*).

Kwang-Chien does not teach the housing having the lens-mounting hole being disposed at a position within reach of a finger on the user's hand. Kwang-Chien does not teach an operating lens having a convex operating surface. Kwang-Chien does not mention the limitation, "that permits movement of an object thereon" for the operating surface of the operating lens. However, Kwang-Chien teaches an object (Figure 3, element 6) to be situated on the underside of the optical cursor controller such that the optical cursor controller creates the movement between the operating surface and the object. It would have been obvious for a person of ordinary skill in the art to turn over the optical mouse cursor controller, as taught by Kwang-Chien, such that the optical mouse controller is stationary and an object or finger creates movement upon the operating surface. Moreover, in the same field of endeavor (optical mouse) examiner cites Kuan as teaching the reversed usage, as shown in figure 1. Combining the lens *(Figure 3, element 3)* having an operating surface of Kwang-Chien with a reversible operating mouse *(Figure 1 of Kuan)*, would meet the claimed limitation "that permits movement of an object thereon". It would have been obvious for a person of ordinary skill in the art at the time the invention was made to modify the optical cursor controller of Kwang-Chien such that the optical mouse could be used in a reversible fashion, as taught by Kuan, for the purpose of eliminating moving parts for simplifying the structure and operation thereof and reducing costs of manufacturing and maintenance *(See column 1, lines 42-45 of Kuan)*. The modification further

provides for a pointing device operable both in forward moving mode and rearward moving mode *(See column 1, lines 46-48 of Kuan)*.

Kuan teaches an optical pointing device (*Figure 1*), wherein the housing (*Figure 1, element 10*) has a lower side and an upper side, a lens-mounting hole (*Figure 1, element 21*) being formed on the upper side at a position within reach of a finger on the user' hand. Kuan further states the ability of the cursor controller elements to be implemented in other devices (*Column 4, line 58 through column 5, line 5*) such as a remote control (*Figure 9, element 50*). It would have been obvious for a person of ordinary skill in the art at the time the invention was made to modify the optical cursor controller of Kwang-Chien, by rearranging the position of the components of the optical cursor controller, as taught by Kuan, for the purpose of having greater versatility for implementing the optical cursor controller (*See column 5, lines 6-9 and figures 7-9*).

With respect to **Claim 16**, the claim differs from claim 8 only in that the limitation "an electronic apparatus comprising a display module with a display screen, a host module connected to the display module and provided with a keyboard thereon, and an optical cursor controller mounted on the host module, and operably associated with the display module for generating cursor control signals that control position of a cursor on the display screen of the display module" is additionally recited. Claim 16 also differs form claim 8 in that the operating lens is accessible from an exterior of the host module, whereas claim 8 states accessibility is from an exterior of the housing. Note that the host module can be interpreted as being the equivalent of a housing. Kwang-Chien does not teach the additional limitation.

Kuan teaches an electronic apparatus comprising a display module with a display screen, a host module *(Figure 8, the host module is equivalent to the casing of the notebook computer)* connected to the display module and provided with a keyboard (*Figure 8, element 400*) thereon, an optical cursor controller (*Figure 8, element 100*) mounted on the host module and operably associated with the display module for generating cursor control signals that control position of a cursor on the display screen of the display module *(column 1, lines 5-9)* such that the operating surface (*Figure 8, element 30*) of the operating lens is accessible from an exterior of the host module. It would have been obvious for a person of ordinary skill in the art at the time the invention was made to modify the optical cursor controller of Kwang-Chien such that the electronic apparatus includes a keyboard with the optical cursor controller mounted thereon, as taught by Kuan, for the purpose of simplifying the structure and operation of the optical cursor controller (*column 1, lines 43-45*).

With respect to **Claim 12,** Kwang-Chien teaches an optical cursor controller, wherein the operating lens has a magnifying power within the range of 1 to 6 times (*column 3, lines 14-16*).

With respect to **Claim 14**, Kwang-Chien teaches an optical cursor controller, wherein the light source includes a light emitting diode (*Figure 2, element 21 and 22*).

3. **Claim 10** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kwang-Chien in view of Kuan, as applied to claim 8 above, and further in view of Chang et al. (Pub No.: US 2005/0001818 A1, herein after referred to as "Chang").

With respect to **Claim 10**, note the above discussion of Kwang-Chien, and Kuan. Kwang-Chien teaches a lens assembly (*Figure 3, element 3*) having an operating surface and converging lens combined in one lens such that the upper part constitutes the converging lens and the lower part constitutes the operating surface. Kwang-Chien does not mention a converging lens disposed between the operating lens and the light processing unit for converging the reflected light prior to receipt by the light processing unit. Chang teaches a lens set (*Figure 2, element 31*) that is composed of a converging lens and an operating surface. The operating surface is the lower part of the lens set facing the insulation plate (*Figure 2, element 4*) and the converging lens is the upper part of the operating lens facing the light processing unit (*Figure 2, elements 21 and 211*). Thus, it is clear that Chang teaches a converging lens disposed between the operating lens and the light processing unit. It would have been obvious for a person of ordinary skill in the art at the time the invention was made to modify the optical cursor controller of Kwang-Chien as modified by Kuan, such that the converging lens is placed between the light processing unit and the operating lens, as taught by Chang, for the purpose of achieving excellent convergence of light radiated by the light source and for the elimination of diverted light (*page 2, [0012], lines 3-6*).

4. **Claims 13 and 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kwang-Chien in view of Kuan, as applied to claim 8 above, and further in view of Bidiville et al. (Patent Number: 6,218,659 B1).

With respect to **Claim 13**, note the above discussion of Kwang-Chien and Kuan. Kwang-Chien does not mention an operating lens having a thickness not greater than 2 millimeters. Bidivile teaches an optical ball for a pointing device where the lens (*Figure 12B, element 1220*) has a thickness on the order of 1.23mm (column 15, lines 40-41). It would have been obvious for a person of ordinary skill in the art at the time the invention was made to define the parameters of the lens thickness, as taught by Bidiville, for the purpose of focusing the reflected image (*See column 2, lines 63-65*).

With respect to **Claim 15**, Kwang-Chien does not mention an optical cursor controller, wherein the operating surface of the operating lens and the light processing unit are spaced apart from each other at a distance ranging from 7.30 to 7.60 millimeters along an optical axis.

Bidiville teaches an optical ball for a pointing device (*Figure 12B*) where in one arrangement the distance from the array sensor (*the array sensor is equivalent to the functions of the light processing unit- column 8, lines 46-48, 1230*) to a lens surface (*1220*) is 4.42 mm and in another arrangement (*Figure 12C*) the lens to sensor distance is 3.3mm (*column 15, lines 66-67*). The alternate arrangements of the lens to sensor distances of Bidiville exemplify the variability of the spacing of the operating surface of the operating lens from the light processing unit. Since variability exists for the spacing between the light processing unit and the operating surface of the operating lens, allowing proper operation of the optical cursor controller, then a distance ranging from 7.30 to 7.60 mm can be implemented. It would have been obvious for a person of ordinary skill in the art at the time the invention was made to use a specified the spacing of the light processing unit from the operating surface of the operating lens, as taught by Bidiville, in

the optical cursor controller of Kwang-Chien as modified by Kuan, for the purpose of providing good responses (signals representative of movements of the cursor) over varying distances of the light processing unit to the operating surface of the operating lens (*column 2 lines 22-25*).

Response to Arguments

5. Applicant's arguments filed January 18, 2006 have been fully considered but they are not persuasive.

In response to applicant's argument regarding the limitation "that permits movement of an object thereon", for the operating lens of claims 8 and 16, please note the above rejection. Although Kwang-Chien does not mention such a limitation, it is intuitive that there is movement between the operating surface and the object (element 6: work pad). Regardless of the direction of the cursor, the claim does not state any correlation between the direction of movement of the cursor and object on the operating surface for any orientation. Further support is given by Kuan who teaches the reversed usage, as shown in figure 1, and is applied to various devices such as a remote controller, a notebook computer, and on a keyboard *(column 2, brief description of figure 1: lines 18-22; column 4, lines 58-63).*

In response to applicant's comment about an optical cursor controller being analogous to a mouse and trackball, respectively is true. The trackball of Bidiville is an optical trackball. The teachings of the applicant, Kwang-Chien, Chang, Kuan, and Bidiville all relate to optics. Any object maybe be used for the reflection of an image such as a work pad, a finger or a ball, for the detection of movement on the x and y axis in optical signal detecting devices. Therefore combinations of the devices of Kwang-Chien, Chang, Kuan, and Bidiville are valid.

In response to applicant's argument about Kuan failing to mention nor suggest an operating lens that has a convex operating surface, Kuan does show a convex lens in figure 1 and figures 3-6, as indicated by element 21. The definition of a convex lens is a lens having at least one surface that curves outward like the exterior of a sphere. Further, in figure 4, the panel (element 30) is removed as stated in column 3, lines 40-57, leaving the lens (element 21) exposed.

6. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Namely applicant's argument of the convex lens (31) of Chang, used for converging reflected light from a surface prior to receipt by a detecting device is not equivalent to the operating lens of the claimed invention which is accessible from an exterior of the housing to permit movement of an object thereon. Further note that Chang is cited for further support of Kwang-Chien's teaching of having a convex lens and such a lens can be thought of as a common component.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donna V. Lui whose telephone number is (571) 272-4920. The examiner can normally be reached on Monday through Friday 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571)272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Donna V Lui
Examiner
Art Unit 2675
Divison 2629

AMR A. AWAD
PRIMARY EXAMINER